TESTIMONY OF SOLOMON D. TRUJILLO

BEFORE THE

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Providing Consumers with High-Speed Internet Access Requires Congressional Action

INTRODUCTION

A key public policy question facing Congress is whether the intent of the 1996 Telecommunications Act to encourage widespread deployment of advanced telecommunications services to all Americans is being fulfilled. Today, that means answering the question: Are high-speed broadband networks…the "big pipes" that are essential to the growth of distance-learning, e-commerce, telemedicine…reaching all Americans?

The answer is that they are not. Regulation and unequal treatment of industry players is widening the Digital Divide…redlining millions of small- and medium-sized businesses, rural areas, inner cities and government and educational institutions. Large businesses have reaped the benefits of hyper-competition among telecommunications providers, but the benefits of those services have stopped there.

Congress should act to lift the regulatory restrictions that have created disincentives for telecommunications providers to deploy high-speed services more widely. These regulations have their roots in the early 80s and were designed to regulate long-distance voice calls. Now, they are applied – inappropriately and harmfully– to data. If those restrictions were lifted, U S WEST alone could provide high-speed services to an

additional two million households and businesses through an additional 260 central offices in one year *alone* and reach 77% of the total households and businesses in U S WEST's service territory.

That's because the issue is fundamentally about competition, and for whom competitors are competing. It's about choice, and whether Americans will have it. It's about incentives, and creating the incentives that lead to investment in high-speed data infrastructure. It's about the marketplace, and being able to offer consumers what they want at prices they can afford.

BACKGROUND

Almost everyone agrees that the Internet – the most significant technological and communications development in the 20th century – should not be regulated. However, the Internet is only as free and unregulated as its most regulated element, and today, the telecommunications parts of that network are subject to pervasive regulation — to the detriment of tens of millions of Americans.

Few foresaw that the telephone would have uses other than voice communication. Today, anything can be converted into binary digits or bits (on/off electronic pulses of zeroes and ones and sent down the line).

HOW THE INTERNET WORKS

Millions of computers can now communicate with each other in the worldwide Internet using high-speed networks. Bits can arrive from anywhere, ready to proceed to the next step in the digital domain and finally be put to use.

To travel to another computer at high speed, the bits can travel via satellite, cable

modem or high-speed, packet-friendly, wired telephone data circuits. An ordinary telephone line carries low-frequency sound signals and cannot handle bits at this rate. So unless you install a high-speed line, you can't transmit video, graphics, fingerprints, books with pictures, educational video, x-rays or other bandwidth-hungry applications. A modem converts the computer's fast digital on/off signals into a low-frequency sound signal.

All computer users, at home and at work, can link into the global computer communications network — the Internet. People can send each other electronic mail; they can visit web sites for information, entertainment, commercial services and software of all kinds.

Companies, hospitals and universities have computers that link directly to the Internet. Small business and home computers link via a modem and phone line to a service provider like America Online. The service provider is an organization with powerful computers that connect to the Internet and store users' web sites. A telephone line links each home computer via its modem to the service provider. Home users subscribe to a service provider, which is a gateway to the Internet and e-mail services.

The Internet reached 50 million users faster than any previous technology, including radio, television and cable television. It grew from 100,000 sites three years ago to four million today. Last year, it delivered 40 times as much mail as the U.S. Postal Service. Nearly 3,000 persons log onto the Internet every half-hour…for the first time. The Internet has grown so fast because the marketplace has been allowed to work.

A NETWORK ONLY AS FREE AS ITS MOST REGULATED PART

Computers aren't regulated. Software isn't regulated. Internet service providers aren't regulated. The network of routing computers that forms the backbone of the Internet isn't regulated. Web sites aren't regulated. The browser isn't regulated. *But the high-speed data links that connect schools, businesses, hospitals and homes, that mark the beginning and the end of the Internet for millions of Americans, are regulated – at least for telcos.*

These regulations grew out of a 1982 agreement between the Justice Department and AT&T to divide local and long-distance voice calls by establishing 197 arbitrary geographic boundaries that have no relation to markets, population configurations, political jurisdictions or technology. These regulations are now applied to the data traffic on the Internet, even though data, by its very nature, is global and has no geographic boundaries.

THE EFFECT OF REGULATION ON DATA

These regulations mean that some companies are prohibited from moving data across these arbitrary boundaries known as LATAs (Local Access Transport Area). These companies consequently have a disincentive to invest in their data networks, particularly in rural, suburban and residential inner-city areas. This discourages investment in anything but urban business corridors and tech centers, and deprives others of competitive choice, as illustrated by maps created by economist Dr. Bill Lilley of InContext. It also artificially inflates the cost of data services.

This constitutes nothing less than a new industrial policy that selectively benefits

some segments of society, but penalizes others.

Can you imagine a nation that wouldn't bristle at a policy that allowed some doctors to use new medicines, while telling others that they couldn't?

Would you think it made sense to tell farmers that they could use one tractor on one piece of land, but must buy another to plow another piece of land across some arbitrary boundary?

And how ridiculous would it be (and how would the public react) if our nation allowed one segment of the population to drive on the highways while forcing others to walk?

This is exactly what has happened and what continues to happen in telecommunications.

Today, the great need and great demand for broadband services is in the small and mid-sized business market, and especially those located outside of downtown business districts and edge-of-city office parks. If these businesses are denied access to high-speed, broadband telecommunications, then government regulation will be responsible for killing jobs, slowing growth and stifling opportunity for those located in America's small towns and rural areas.

SELECTIVE DEPLOYMENT OF ADVANCED SERVICES

No one else seems to be willing to widely deploy high-speed services (also known as "broadband"). The Bill Lilley studies have shown that investment in broadband infrastructure has been strictly limited to high-density, urban business areas and technological parks. He has mapped new telephony business deployment in 10 of

U S WEST's biggest markets. Virtually all of the new advanced telecommunications equipment and capital spending is aimed at large business enclaves. The record shows that they continue their concentration on high-end areas, even though that's where they face the greatest competition.

New market entrants (called Competitive Local Exchange Carriers, or CLECs) are not building out to suburban, rural, and minority areas. If companies like U S WEST cannot transmit data across LATA boundaries, the economics are not there for them to build out the facilities needed to provide high-speed data services.

This is particularly important for consumers in the many rural areas U S WEST serves. U S WEST has the largest geography of any RBOC, more than twice the RBOC average. U S WEST also has the fewest number of access lines and an average loop length that is almost 40% longer than the RBOC average. Nearly one-third of U S WEST's customers live in rural areas, compared the about one-fifth for the other RBOCs. The CLECs show no inclination to serve those vast numbers of customers.

THE EFFECTS OF SELECTIVE DEPLOYMENT ON CONSUMERS

A report by John Oppenheimer and Gideon Stein of Glocap Consulting, LLC, showed that in Washington State, 67% of people in urban areas have at least one option for high-speed services compared to only 10% in rural areas.

Wes Hare, La Grande, Oregon city manager, said, "This is not just a rural problem, it is a problem of people without money and without power."

Mary Leahey, producer of the PBS documentary, "Digital Nation," said, "most rural area leaders consider access to high-speed telecommunications a matter of survival."

Everyone who buys or sells products or services understands the importance of high-speed broadband access. A druggist in West Virginia who is filling a prescription for an addiction-sensitive drug has to go on-line to see if the prescribing doctor is current with Drug Enforcement Administration registration. A contractor in Arizona needs to refer to current Federal regulations on highway curbs and can do that via the Internet. If your connection is spotty or slow, you're at a deeper competitive disadvantage every time you log-on. And if you don't have access to data-rich files over a dial-up 28.8K or 56K connection, you need high-speed service.

Yet no one is building out the Internet to serve tens of millions of Americans, to serve hospitals, libraries, law enforcement agencies and the nearly 11 million small businesses in the United States.

THE LOGICAL EFFECT OF ILLOGICAL REGULATION

Those regulations have excluded millions of Americans from the benefits of the Information Age. The rules now in place give new market players no incentive to invest in under-served areas and at the same time prohibit companies like U S WEST from filling the void.

There is no reason to believe this will change without direct action from Congress.

The head of MCI/WorldCom, Bernie Ebbers, has said, "We're going to concentrate on business customers, and you won't see us in places like Butte, Montana."

AT&T and TCI repeatedly told the FCC that the fulfillment of the Telecommunications Act vision in providing competition to incumbent telephone companies should be a reason for approving their recent merger. Yet in their proxy

statement on the merger, they told their shareholders that even though they entered into talks with the "expectation" that a merger would lead to cable telephony services (including high-speed data services), that goal "may not be realized." The proxy further stated that there are no assurances that necessary deployment of advanced services could take place since "it will require significant attention from management," which may be preoccupied with other issues.

Consumers are penalized when their only choice of a provider who can get them onto the Internet is a company that can't move their data across LATA boundaries. If U S WEST could transmit data across LATAs, the costs for consumers would decline by approximately 20%. At the same time, U S WEST would have a reasonable incentive to expand its high-speed data offerings to reach an additional two million customer households.

THE ADVERSE ECONOMICS OF REDUNDANCY

Because U S WEST is not allowed to aggregate data traffic from central offices in different LATAs, it must duplicate facilities in each one. Each central office must connect to a data-friendly Asynchronous Transfer Mode (ATM) switch located in the same LATA. Each duplicate ATM switching system and supporting equipment adds more than a million dollars to the costs of serving small- and rural-market customers. Consequently, the deployment of high-speed Digital Subscriber Line technology to rural areas under current regulations makes little business sense.

A PROBLEM CONGRESS ANTICIPATED

Congress recognized the potential plight of rural Americans in the Telecom Act:

"Consumers in all regions of the Nation, including…those in rural, insular, and high-cost areas, should have access to telecommunications and information services, including…advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas."[1]

The FCC says there is no investment problem, but ignores the fact that services are not widely available.

In a recent report to Congress, the FCC concluded that advanced Internet services were presently being deployed in a reasonable and timely manner. They based this finding on evidence that 375,000 customers are now subscribing to broadband services throughout America. By their own math, they say this amounts to a residential penetration of about four-tenths of one percent. The FCC also said that it "…lacks information on the deployment and availability of advanced telecommunications availability in disadvantaged urban areas" but the National Telecommunications and Information Administration in "Falling Through the Net II: New Data on the Digital Divide" reported that the digital divide increased between 1994 and 1997 and that "Blacks and Hispanics now lag even further behind whites in their levels of PC-ownership and on-line access."

The National Rural Development Council reported that low-income, minorities, young, and less-educated in rural or inner cities are more likely to be technologically disadvantaged: "45% of all have access to the Internet – 82% in urban areas, and 31% have access in rural areas."

The FCC also wrote, "At this time, we do not find that lack of backbone is a

pervasive factor in rural areas," yet 13 of the 27 (48%) of the long-distance calling areas in U S WEST's territory are untouched by national high-speed backbone networks.

However, Senator Conrad Burns of Montana estimates that only 2% of Americans have access to high-speed services.

Apparently, the FCC equates significant *investment* in high-speed access by competitive local exchange carriers (CLECS) to significant *access* to services. By this logic, one could measure rainfall in the U.S. and conclude that Death Valley is a forest. But the truth is that access applies *only* to large businesses in metro areas.

FROM THEORETICAL HARM TO REAL DAMAGE

Are these policies hurting people? Yes.

The unavailability of broadband services, which can be delivered by telephone lines, cable modems or satellite, is more than just a nuisance for a techie frustrated that it takes an hour to download a large file off the Internet. It is particularly damaging to people involved in small business, who are missing out on the opportunities afforded big, urban businesses to dramatically reduce the cost of business transactions and increase productivity.

IMPORTANCE OF BROADBAND TO SMALL BUSINESS

Small businesses are struggling to overcome this disadvantage. Increasingly, they are being forced to conduct business with their customers (usually large corporations) via internal corporate communications networks and to compete with on-line businesses such as Amazon.com and CDNow. A recent study predicts that business-to-business commerce transactions on the Internet will top $842 billion by the year 2002, more than

double the amount predicted a year ago.

One example of how this Internet revolution is revolutionizing business involves the automobile dealerships in Montana.

Steve Turkiewicz, executive director of the Montana Auto Dealers, told attendees at a "Digital Divide Summit" that all dealer-factory communications for one major U.S. auto maker are in the process of being switched to a company intranet system. But most Montana dealers have no access to high-speed broadband services and must spend hours on-line – if they can even get a connection – trying to order vehicles.

Moreover, these dealers cannot take advantage of on-line training for their technicians. Often, the only alternative is a costly trip to a distant training location. "If rural dealerships continue to be limited by technology, we will not be able to compete," Turkiewicz said. Rules written and imposed years before the Internet rose to prominence are hurting people like Steve Turkiewicz today.

IMPORTANCE OF BROADBAND TO FARMERS

Farmers rely heavily on computers and the Internet to conduct business transactions and obtain information. Jim Burg, a South Dakota Public Utilities Commissioner and a farmer, also spoke at the "Digital Divide Summit." He said that over the Internet, farmers can get access to resources and information that was never before available, and conduct business from their home that previously required trips to the bank, the grain elevator, the feed store and the auction house. But farmers' daily use of the Internet is hampered by low-speed connections. These extremely slow and unreliable connections rob valuable time from the farmer's day and tie up telephone lines and

computers for long periods of time. Burg said, “People in rural areas need [broadband] services more than people in town.”

IMPORTANCE OF BROADBAND TO HEALTH CARE

The Inland Northwest Telehealth Services regional network connects six hospitals in Spokane and 11 more hospitals in rural areas of Eastern Washington. The same high-speed link in Spokane costs nearly three times more a month in rural areas, according to Denny Lordan of Inland Northwest. In the case of the small town of Newport, Washington, a high-speed link would cost $2,400 a month, making it prohibitively expensive. Rural communities such as Newport are left in a “very dangerous position” according to Lordan.

IMPORTANCE OF BROADBAND TO GOVERNMENTS

Nebraska operates a high-speed data network that connects various government agencies, educational institutions and Native Americans reservations across Nebraska. The connections between sites in northeastern Nebraska are less robust than those that comprise the rest of the State Network because it is significantly more expensive to send data across the LATA boundary that divides Omaha, Nebraska, and Sioux City, Iowa. As a result, the capacity of the State Network in Northeastern Nebraska is insufficient to accommodate new network applications, such as graphics-rich content from the National

Crime Information Center or public videoconferencing. Because existing competitors to U S WEST have proven unwilling or unable to provide service on affordable terms, Nebraska and U S WEST have jointly asked the FCC to allow U S WEST to do what others will not.

IMPORTANCE OF BROADBAND TO EDUCATION

Recently, a coalition of universities and government institutions – including Arizona State University, the Colorado School of Mines, Colorado State University, the Universities of Colorado at Boulder and Denver, the National Center for Atmospheric Research, the University of New Mexico, the University of Utah and Utah State University – asked U S WEST to submit a proposal to build a high-speed network connecting these institutions. Because of the InterLATA restriction, U S WEST could not offer to build an integrated wide-area network. The project was shelved.

In short, those most likely to benefit from the Internet and services like electronic commerce, distance learning and telemedicine are the least likely to have affordable access to high-speed broadband networks.

WHAT IS THE FCC'S SOLUTION?

The FCC offers a faulty solution to the problem: Allow companies like U S WEST to provide high-speed services, but only through separate subsidiaries. This approach is predicated on the belief that the economic models (that already show little or no incentive to serve neglected areas) will improve if providers bear the duplicative costs of setting up separate companies. For U S WEST alone, just the systems costs for a separate subsidiary would exceed $200 million. The expenses of setting up a new company, paying an

Internet backbone provider and covering resale expenses would mean an increase in high-speed service costs of 50% to the average consumer. All it takes is a little regulation to skew the economics of the Internet a lot.

The separate subsidiary scheme is clearly illogical, and it ignores the reality that competitors such as AT&T can provide such services without any separate subsidiary requirement, and will do so with a take-it-or-leave-it approach by imposing themselves as the only available Internet Service Provider to cable modem customers.

Some fear that if given the authority to transmit data across LATA boundaries, companies like U S WEST would monopolize the market. But as the FCC itself has noted, "The preconditions for monopoly appear absent…The record does not indicate that the consumer market is inherently a natural monopoly."[2] Instead, removing the interLATA restrictions on data would being new entrants to the market, bring new competition, and serve to lower prices and expand broadband deployment.

WHAT IS THE RIGHT SOLUTION?

Congress must act to remove government regulation from the Internet and bring broadband to more Americans.

U S WEST'S COMMITMENT TO DEPLOYING BROADBAND

How will this help consumers? If Congress removes government regulation from the Internet, U S WEST would be able to deploy high-speed services to smaller communities and serve an additional two million households throughout our territory – a total of 77% of its customers. And that's just U S WEST and our territory. Others will do likewise in other parts of the country.

If Congress acts, U S WEST would be able to deploy greater bandwidth to many additional smaller markets. This would alleviate the network congestion rural ISPs and subscribers face. It would decrease the costs of their connections to the Internet by reducing the need for backhauling, and it would improve the quality of their connections by allowing them to reach the upper levels of the Internet hierarchy in fewer hops.

Every company– the local service carriers, the long-distance carriers and the competitive local exchange carriers – is a new entrant in data services. We are all building out new networks. We are all investing in research and development to figure out how to achieve the rapid and pervasive deployment of high-speed, broadband transport. There is no rationale whatsoever for regulating any provider of data services – and certainly not for regulating some and not others.

U S WEST has the capability, the capital, the desire, and the technology to serve rural and urban customers, but regulators are preventing us from doing so. In essence, companies that can serve aren't, while those – like U S WEST – that want to, can't.

Congress must act to deregulate data services, including the transmission of data services across LATA boundaries to achieve the goals of the Telecom Act.

That will ensure that high-speed services are being widely deployed to more Americans in a timely fashion.

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[1] 47 USC §254 (b) (3)

[2] "In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to all Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996." CC Docket No. 98-146, February 2, 1999